UNITED STATES DISTRICT COURT
FOR THE EASTERN DIVISION OF TEXAS
MARSHALL DIVISION

INTELLECTUAL VENTURES II, LLC, *Plaintiff,* v. SPRINT SPECTRUM L.P., NEXTEL OPERATIONS, INC., ERICSSON INC., TELEFONAKTIEBOLAGET LM ERICCSON, and ALCATEL-LUCENT USA INC., *Defendants.*	§	Civil Action No. 2:17-cv-662-JRG LEAD JURY TRIAL DEMANDED
INTELLECTUAL VENTURES II, LLC, *Plaintiff,* v. T-MOBILE USA, INC., T-MOBILE US, INC., ERICSSON INC., and TELEFONAKTIEBOLAGET LM ERICSSON, v. *Defendants*, NOKIA OF AMERICA CORPORATION, *Intervenor*.	§	Civil Action No. 2:17-cv-661-JRG JURY TRIAL DEMANDED

PLAINTIFF'S REPLY CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

IV submits this reply brief in support of its proposed claim constructions.

II. ARGUMENT

A. "the message having an allocation of resources for a shared channel and a radio network temporary identity (RNTI) associated with a plurality of UEs including the UE"—`357 Patent, Claims 11, 30, and 47

No construction of this term is necessary. Nor is there anything objectionable about the word "conveying". It is obvious that "a message having [x]" means "a message conveying [x]". Defendants' argument to the contrary defies common usage, and their objection that the patent never uses the word "conveying" when describing the contents of transmissions is demonstrably false.[1]

The real dispute is over what the message conveys. IV reads the claim as it was written to mean: "the message conveying [1] an allocation of resources … and [2] a radio network temporary identity (RNTI) …" The former is a map that the UE can use to determine at what time and frequencies radio transmissions will occur. The latter is a specific number, an identifier.

Defendants' construction is ambiguous and would itself require construction. What is "an allocation of an RNTI"? The patent describes scenarios in which a base station selects an identifier, but it is unclear why one would send an ***allocation of an*** identifier, rather than the identifier itself. The specification is silent on this point. Defendants' citations, at best, discuss transmitting "the c-RNTI" not "the allocation of c-RNTI." *See, e.g.*, Defs.' Br. at 4 (citing `357 patent, 7:26-37).

[1] *See, e.g.*, `357 Patent, 10:15-21 ("message ***conveying*** a unique identifier…and an allocation of dedicated physical access resource…"); Fig. 16 at 401 ("message ***conveying*** a unique identifier…, a temporary identifier…, and an indication of an allocation of dedicated physical resource"); 4:27-29 ("Specific information required by the UE for correct transmission/reception over SCHs is ***conveyed*** from RAN to UE over the SCCHs"); *see also id.* at 8:62-64; 10:22-28, Fig. 15 at 302.

In fact, the specification often discusses transmitting an identifier and an allocation of resources, ***in that order***, suggesting the patentee simply reversed their sequence when drafting the asserted claims. *See, e.g.,*`357 Patent, Fig. 14 at 202 ("send the…message together ***with a temporary identifier and an indication of an allocation of dedicated physical access resource***"); Fig. 15 at 302, Fig. 16 at 401, 10:15-21, 10:22-28. If the patentee intended Defendants' construction, the specification would describe transmission of (1) ***an allocation of*** an identifier and (2) an allocation of resources. It does not.

Moreover, Defendants confuse matters by citing to portions of the specification describing one-stage paging (paging the UE via a single message as shown in Figure 5) rather than the claimed two-stage paging procedure (paging the UE via two messages as shown in Figures 7-9). Defs.' Br. at 4-5. The asserted claims recite a process of two-stage paging where the base station first sends "a message on a control channel…having an allocation of resources for a shared channel and a radio network temporary identity (RNTI)" and further sends a "paging message in the allocated resources for the shared channel." *See, e.g.,* `357 Patent, cl. 11. The discussion of two-stage paging is silent on selecting a c-RNTI. *See id.* at 5:1-6:67. Similarly, Defendants conflate SCCH, which refers to a shared ***control*** channel, with the allocation of resources for data on a ***shared channel*** (referenced in the specification as "SCH"). *Id.* at 3:2-4; 3:21-30, 6:50-51; Fig. 9 (distinguishing "SCCH" from "SCH"). The asserted claims distinguish "a control channel" from "a shared channel." *Id.* at cls. 11, 30, 47. In the final analysis though, Defendants' references to the specification shed no light on the construction of the claim and serve only as a distraction. None of these citations remotely support the insertion of the proposed claim language into the construction.

B. "the signal"—`330 Patent, Claims 1, 8, 9, 17, 18, 25, 26 and 34

The parties agree that antecedent basis for "the signal" is found in the immediately

preceding step (and for Claim 9, partly in the ***same*** element). Yet, Defendants insist on repeating these words, without providing any explanation why it is necessary to do so. No further construction is required.

C. "wherein allocation of resources for the data of each channel of a radio bearer having a second parameter above zero is provided before another channel's data for transmission having a third parameter less than or equal to zero"—`466 Patent Claims 4 and 9, `018 Patent Claims 12, 16, and 20, and similar terms in `466 Patent Claims 1 and 9 and `018 Patent Claim 24

Defendants misread the grammar and structure of the claim language. The disputed claim terms are wherein clauses that describe a step—the allocation of resources—performed for two different sets of data, one "before" (or "prior to") another. The terms take the form of:

> "wherein allocation of resources for [one set of data] is provided before [another set of data];" OR
>
> "wherein resources are allocated for [one set of data] before [another set of data]."

The one set of data is "the data of each channel of a radio bearer having a second parameter above zero." The other set of data is "another channel's data for transmission having a third parameter less than or equal to zero." The claim language distinguishes these two sets of data by requiring each to be associated with a different channel(s) and each to have a different parameter.

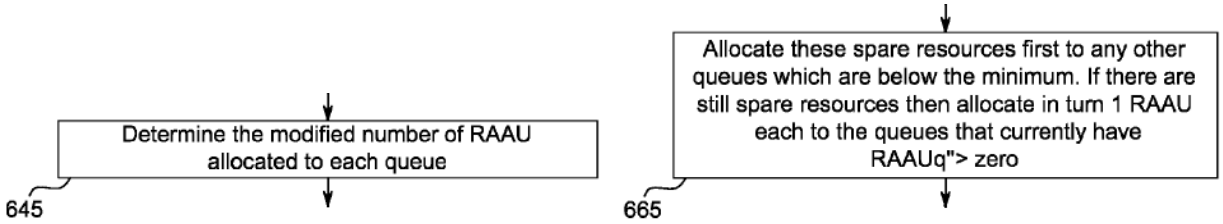
Defendants first argue that the claim elements are missing words. Defs.' Br. at 8. Not so. IV would be content with plain meaning. The parties' proposed constructions are supposed to help assist the trier of fact in evaluating the scope of the claims, not to "correct" them. IV's construction simply captures the meaning of the claims to one of skill in the art.

What the parties agree upon is that the disputed wherein clauses concern the allocation of resources. In every claim element where they appear, the wherein clause occurs "in response to the allocation message." *See* `018 Patent claim elements 12[c], 16[c], 20[c], 24[c], `466 Patent claim elements 1[b], 4[c], 9[c]. The wherein clauses require an "apples to apples" comparison of

the allocations for two sets of data, one of which must be allocated before another.

Where the parties differ is that the Defendants argue that these terms require "that each channel having a 'second parameter' above zero must be allocated resources so that the channel ***transmits its data before*** another channel—having a 'third parameter' less than or equal to zero—transmits its data." Defs.' Br. at 10. However, the patent concerns a much more sophisticated allocation process that gives priority to certain sets of data when allocating radio bearer channels on a queue by queue basis. The system allocates resources for queues of data based on the values of parameters and an allocation message. While the data is transmitted after the allocation process takes place, the data in those queues is sent at "a single instant in time." `018 Patent at 10:37–40. The concept of sequential transmission of data queues, which is what Defendants seem to be arguing for, is simplistic and not required by the claims.

There is ample intrinsic evidence supporting IV"s interpretation. *See* Opening Br. at 14-15, '018 Patent at 9:21-28, 9:38-45, 9:55-10:18, 10:28-12:14. Both parties point to Figure 6. *See* Defs.' Br. at 10–11. The Figure 6 embodiment clearly prioritizes allocation of resources for one set of data (in one queue) before another set of data (in another queue):



See also `018 Patent at 9:54–12:33; *id.* at 9:11–20 ("provide prioritization of services . . . in an uplink direction . . . . [L]ogic exists that splits data onto . . . radio bearers dependent upon the type of service . . . [and] signal[s] buffer occupancy for each [associated] queue"). That is the essence of IV's construction: "wherein allocation of resources for [one set of data] is provided before ***allocation of resources for*** [another set of data]."

Defendants principal criticism of IV's construction is that IV reads the phrase "for transmission" out of the claim terms. Defs.' Br. at 11-12. But "for transmission" appears in IV's construction and refers to the ultimate use of the data for the "another channel" with the third parameter. In specifying the relative priority of allocation of resources, the system considers only data from the "another channel" that is "for transmission," as opposed to data from the "another channel" that is ***not*** for transmission such as the channel's first parameter, its third parameter, or any of the "another channel's" other pieces of data from the Figure 6 embodiment (e.g., W'_q , W''_q , N_q , N'_q , S_q , $RAAU_q$, $RAAU_q'$, $RAAU_q''$) which are not "for transmission." *See* `018 Patent at 10:45–12:14.

Finally, Defendants insist that if the Court finds that there can be any reasonable debate about these terms, it must then find the terms indefinite. Defs.' Br. at 13-15. But Defendants' cases deal with instances where everyone agrees that words have been omitted from a claim. *E.g.*, *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1352-57 (Fed. Cir. 2003). Here, there is no error, no missing words, and no difficulty interpreting the plain and ordinary meaning of these claim terms: the allocation for one set of data must be provided before the allocation for another set of data. Defendants' mere disagreement with that construction does not create indefiniteness.

D. "the single physical channel"—`828 Patent, Claims 1, 8, 15, 22, 29, and 36

The parties agree "the single physical channel" refers to the same physical channel as its antecedent "a single physical channel." *See* Defs.' Br. at 16. No further construction is required.

The claims require two different modes of operation: (1) when "accumulation is enabled," the "channel" must carry both an "allocation" and a "TPC command" on a single channel; and (2) when "accumulation is not enabled," an allocation is sent on a single channel, with the TPC command being optional. *See* `828 Patent, claims 1, 8, 15, 22, 29 and 36. Defendants concede that the "TPC command" need not be sent during the mode when "accumulation is not enabled"

(Defs.' Br. at 17), so there is no factual dispute on this issue.

Nevertheless, the last two sentences of Defendants' discussion (Defs. Br. at 17) suggest that Defendants intend to argue that their construction requires that the device use the same physical channel whether the device is in one or both modes, but this is nonsensical. Claim 1 is a method claim. Carrying out the steps would not require that the system go into both modes, so the concept of a single channel for both modes is spurious. The apparatus claims require that the device be capable of operating in either mode, but not both at the same time. So, it is perplexing that Defendants insist it is not enough for the "single physical channel" to be "capable" of carrying a "TPC command" along with the "allocation." *See* Defs.' Br. at 17 (arguing that the "'single physical channel' does not just have the same capability as its antecedent basis"). Neither Defendants' proposed construction, nor the rules of construction require that result.

E. "[receiving/receive/sending/send]...if accumulation is not enabled, an allocation of a scheduled uplink resource to transmit data [to the wireless network/network device] at a power level calculated by the UE based on the path loss"—`828 Patent, Claims 1, 8, 15, 22, 29, and 36

Defendants' proposed construction adds the negative limitation "without using a TPC command," which is most certainly not plain meaning. *See* `828 Patent, cls. 1, 8, 15, 22, 29, 36. The Federal Circuit has cautioned against narrowing the scope of a claim when the "additional negative limitation finds no anchor in the explicit claim language" or specification. *See, e.g., Linear Tech. Corp. v. Int'l Trade Comm'n*, 566 F.3d 1049, 1060 (Fed. Cir. 2009) (finding "no basis in the patent specification for adding the negative limitation").

Nothing in the claims or specification warrants adding the negative limitation. The fact that the claims require a "TPC command" in the mode "when accumulation is enabled" does not imply that no TPC command can be sent "when accumulation is not enabled," as Defendants contend. *See* Defs.' Br. at 19. Rather, the `828 patent contemplates using TPC commands in both

modes. `828 Patent at Abstract, Figs. 3-4, 7:16-19, 8:66-9:15, 9:55-10:14, 11:19-25,13:37-55. TPC commands are processed differently in the two modes. *Id*. When "accumulation is enabled," the UE accumulates values carried by multiple TPC commands, and adjusts the power by the accumulated sum. *Id*. When "accumulation is not enabled," the UE does not accumulate TPC values, and simply adjusts its power by the latest TPC value. *Id*. Because the patent specification and the claims contemplate using TPC commands in both modes, there is no justification for adding a negative limitation that precludes use of TPC commands in one of the modes.[2]

F. "transmit a broadcast channel in an orthogonal frequency division multiple access (OFDMA) core-band"—`641 Patent, Claim 1

Defendants' proposed construction, which is really a construction of "broadcast channel," is at odds with the (1) the '431 patent, (2) Defendants' `431 IPR expert's interpretation of the term, (3) Defendants' `431 IPR counsel's representations, and (4) IV's actual positions taken during both the IPR proceeding and the subsequent appeal.

The `431 and `641 patent specifications do not support Defendants' construction. *See generally* Ex. 9 (`431 Patent) and Ex. 7 (`641 Patent). The specification excerpts that explicitly recite examples of broadcasting or broadcast channels discuss control information such as synchronization information, cell identification information, and bandwidth information:

> The DL preamble is used at a base station to broadcast radio network information such as synchronization and cell identification.
> [. . .]
> When entering into a VB network, the mobile stations will scan the spectral bands of different center frequencies in which the receiver is designed to operate and decode the bandwidth information contained in the broadcasting channel or

[2] Defendants mischaracterize the `828 patent specification. *See* Defs.' Br. at 19-20. Defendants state that traditional "open loop" power control schemes did not use TPC commands, but the `828 claims say nothing about open or closed loop, and the entire thrust of the specification is aimed at an invention using a "combined scheme" using "TPC commands" separate and apart from whether or not accumulation is enabled. *See* `828 Patent, 7:64-66, 12:7-65, Fig. 5C. Nothing in the specification warrants the extraordinary measure of adding a negative limitation.

preamble.

See, e.g., `641 Patent at 3:54-56 and 6:23-30. No reference is made to a broadcast channel "providing" data channels, and a person of ordinary skill would not understand a broadcast channel to provide data channels.

The parties and PTAB took the same position during the `431 IPR. Ericsson's `431 IPR expert Dr. Haas described the principal prior art reference Yamaura as having alleged broadcast channels BCH and FCH because they disclosed "control signals," not data signals. Ex. 10 (Declaration of Zygmunt J. Haas, Ph.D., *Ericsson Inc., et al. v. Intellectual Ventures II LLC*, IPR2015-01664, Exhibit 1001 (PTAB July 30, 2015)) at ¶¶ 66-67. IV's expert, Dr. Zeger, also took the position that the alleged Yamaura broadcast channels BCH and FCH disclosed control signals, while further explaining that such control signals were not located only in Yamaura's "narrow band" (which Ericsson alleged to be a core-band). Ex. 11 (Declaration of Kenneth Zeger, *Ericsson Inc., et al. v. Intellectual Ventures II LLC*, IPR2015-01664, Exhibit 2001 (PTAB May 9, 2016)) at ¶¶ 58-59, *see also* ¶¶ 50-57. Furthermore, during the `431 IPR hearing, Defendant Ericsson's counsel explicitly rejected the idea that a broadcast channel could provide data channels, and instead limited it to "control information": "It is control information. It is not really data. It is not user data. It is control information." Ex. 12 (Transcript of Oral Argument, *Ericsson Inc., et al. v. Intellectual Ventures II LLC*, IPR2015-01664 (Oct. 6, 2016)) at 14:3-6, *see also* at 12:9-15:3.

In briefing, IV noted, regarding one embodiment, that having a broadcast channel exist both inside and outside of the core-band would contradict the purpose of that embodiment, which discloses a core-band containing both essential radio control channels (e.g., the broadcast channel) and data channels. Ex. 13 (Patent Owner Response, *Ericsson Inc., et al. v. Intellectual Ventures II LLC*, IPR2015-01664, Paper 13, (PTAB May 9, 2016)) at 36 ("The `431 patent explains that the

purpose of transmitting a broadcast channel in a core-band is to provide essential radio control channels and a set of data channels in a core-band to maintain basic radio operation. Exhibit 1001 at 5:8-13."). This sentence just says that the core band in that embodiment has a broadcast channel (control channel) and data channels. It does not turn the broadcast channel into a data channel as Defendants now suggest.

The PTAB also understood Petitioner Ericsson's position to be that Yamaura disclosed a broadcast channel, which was only described as including control signals, because those control signals were purported to be located in a core-band:

> Petitioner argues . . . that Yamaura discloses transmitting "***a broadcast channel including control signals.***" Petitioner further explains that Yamaura "***transmits control signals to the terminal stations via broadcast bursts that include broadcast channels*** . . . ."

Ex. 8 (Final Written Decision, *Ericsson Inc., et al. v. Intellectual Ventures II LLC*, IPR2015-01664, Paper 24 (PTAB Feb. 8, 2017)) at 10 (citations omitted) (emphasis added). In finding that Yamaura did not disclose a broadcast channel in an OFDMA core-band, the PTAB concluded that "Petitioner has failed to demonstrate that Yamaura ***transmits no control signals outside of its narrow band*** . . . . Under our construction . . . , in which the entire broadcast channel must be transmitted in the core-band, [the Yamaura alleged broadcast channels] BCH and FCH are not entirely transmitted within Yamaura's narrow band." *Id.* at 16 (emphasis added). Thus, the PTAB understood a broadcast channel as transmitting control signals/channels, and nowhere in the PTAB's analysis is the broadcast channel considered or referenced as providing data channels.

IV also defended the PTAB's decision on appeal. *See, e.g.*, Ex. 14 (Response Brief of Appellee Intellectual Ventures II LLC, *Ericsson Inc., et al. v. Intellectual Ventures II LLC*, No. 2017-2242, Dkt. 23 (Fed. Cir. Nov. 14, 2017)) at 31 ("Ericsson concedes that such essential control signals are an example of the claimed broadcast channel …,") *see also, e.g.*, 34-37.

In short, there is nothing in the specification, IPR proceedings, or the claims which supports the Defendants' construction. Having lost the IPR on a related patent, Defendant Ericsson is now taking a contrary position, trying to narrow the claim. The attempt to rewrite the claim should be rejected.

III. CONCLUSION

For the foregoing reasons, IV respectfully requests that the Court reject Defendants' proposed constructions and adopt IV's constructions for each of the disputed terms.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing document was filed electronically in compliance with Local Rule CV-5(a). As such, this notice was served on all counsel of record who have consented to electronic service as this district requires in accordance with Local Rule CV-5(a)(3)(A). Pursuant to Fed. R. Civ. P. 5(d) and Local Rule CV-5(d) and (e), all other counsel of record not deemed to have consented to electronic service were served with a true and correct copy of the foregoing by email on this 15th day of October, 2018.

/s/ Martin J. Black